NEMESIS - TCS

Nemesis-TCS 'Traction Control System
Installation manual 848 / 1098
Type - AB

For several years now a professional and well-developed traction control system for motorbikes has only been available to those with larger budgets or a top-level superbike team behind them.

All of this has now changed !!

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Kit components:

Kit part No.	**TCS-848.1098.AB**
Application - 848 or 1098 with a standard seat unit and TCS in the tool box	

Speed pick up components	**Part No**	**Checked**	**Qty**
Front left speed bracket	CSD1327		1
Front left axle spacer	CSD1281		1
5 bolt trigger disk assembly	CSP1014		1
Speed sensor	23813030401		1
M8 Washer - Aluminium	CSP1013		5
M6 x 16 Zinc Hex head cap screw - Speed sensor	CSP1019		1

Traction module components	**Part No**	**Checked**	**Qty**
Traction Control Module	TCM		1
Bobbin - Dia 10x15, M5 x12mm	CSP1012		3
Standard 848/1098 seat mount	CSD1290		1
Double sided tape to be applied to seat mount	n/a		n/a
M5 x 16 cap screw	CSP1023		2
M5 Serrated FlangeNut	CSP1017		6

Wiring	**Part No**	**Checked**	**Qty**
Coil wiring	CSW1285		1
CAN wiring	CSW1286		1
Inputs wiring	CSW1278		1
Throttle signal - quick link (red)	CSP1015		1

Display module components	**Part No**	**Checked**	**Qty**
Display module	TC-Pod		1
Spacer	CS1258		1
M6x35 S/S cap head screw	CSP1016		1
Center bracket - TC-Pod	CS1243		1
Push button assembly - blue/green TC-Pod	CS972		1
Double sided glue pad	CSP1020		2
M3x8 Hex button head	CSP1018		2

Miscelaneous components	**Part No**	**Checked**	**Qty**
Cable ties - 200mm x 4mm	CSP1021		16
Printed TCS over view manual			1
Printed TCS 848/1098 AB manual			1
Nemesis-TCS stickers	CSP1022		6

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IMPORTANT – To be read by ALL installers and owners

Diagnostic light
The Nemesis TCS directly controls the ignition coils on your bike. If you have a standard, re-flashed or DP ECU on your bike the internal diagnostics will think there is a problem with the coils and activate the diagnostic light on your dashboard. There is no way to avoid this.

Terms of use
The presence of the Nemesis-TCS does not take away the responsibility of the rider to operate the bike correctly within their own abilities, the track conditions and the laws of physics.

The system is designed to achieve greater on-track performance by the use of power modulation during wheel slip events, but in no way should it be considered possible for the system to recover from every conceivable loss of grip. The onus for safety always rests with the rider to stay within his or her own abilities, and to ensure that the 'on-bike' equipment is programmed, setup correctly, and an appropriate TC level selected for the skill of the rider, the bike and the track conditions.

This equipment is intended for racing or track day performance use only and where exhaust emission controls are not applicable.

By installing and using the Nemesis-TCS you automatically indemnify Competition Systems Ltd, our suppliers and our authorised dealers from all first party or third party loss or damages. Normal components warranty is not affected

Battery
It is recommended that the standard battery be used with this system.

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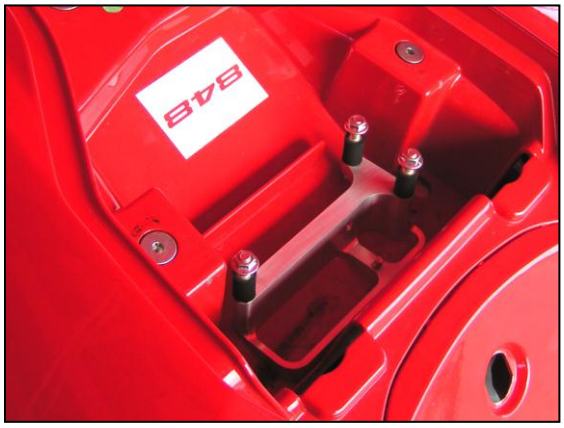
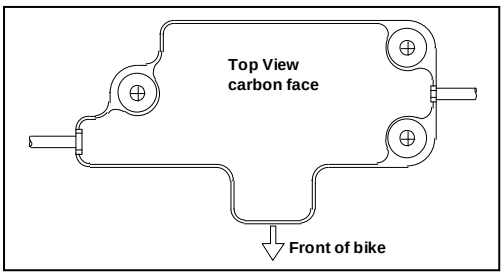
Installation – 848/1098 – AB (revision_04, 31/08/2011)

Author – Mick Boasman

TC Module Mounting:

- Remove the rear seat unit from the bike.
- Remove the short extension cable originally used for the DDA (Ducati data logger) and the rubber mount from the tool box aperture
- Drill out the 2 small holes in the bottom of the tool box from the standard 4mm up to 5.5 mm
- Fit the new seat mount bracket using the 2 cap screws provided and the double-sided tape strips. Ensure the base of the tool box is clean before using tape
- Fit the 3 rubber bobbins to the threaded holes in the top of the seat adaptor CSD1290 as seen in image 1 to the right
- Fit the TC Module to the rubber bobbins with the carbon face uppermost as seen in the picture.
- The wiring should be routed through the 2 holes at either side of the toolbox and cable tied to the left and right sub-frame tubes after the seat unit is re-fitted.
- For users who wish to re-use the DDA system you will need an additional wiring component – CSW1309





TC-Pod Fitting:

- Due to limited clearance on the handlebars the TC-Pod should be fitted centrally just in front of the dashboard using the angled bracket CS1243. This can be held in place using the double sided adhesive or any alternative method using the single mounting hole. The pod should be pushed back as far as possible so that the upper edge touches the front lower face of the dash, the kit contains a small piece of foam tape to avoid wear on the dash surround

- Mount the CS972 switch assembly to the upper or lower clutch master cylinder clamp using the longer bolt and spacer provided. Connect the CS972 switch assembly to the TC-Pod via the 4 way connector of the TC-Pod

- Important note – The TC-Pod supplied, as part of the TCS is not the same as the standard TC-Pod. Do not attempt to swap parts

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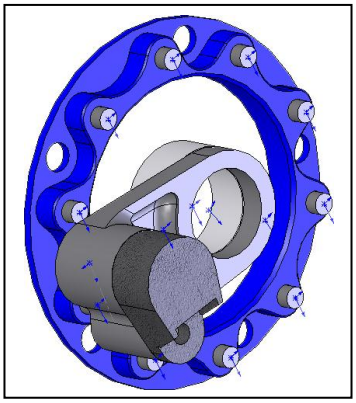
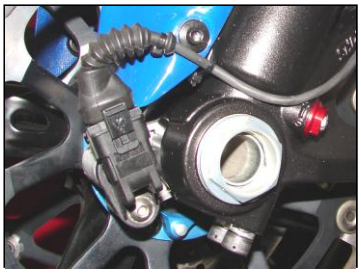
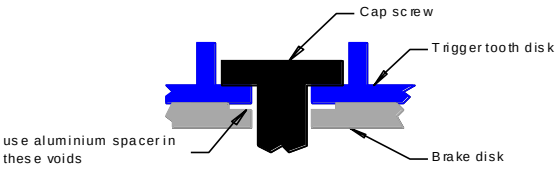
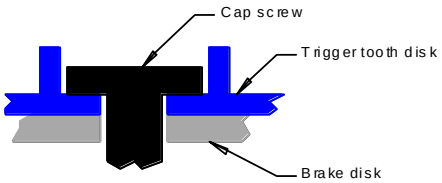
Front Wheel Speed:
Your TCS kit comes with a dedicated 10-tooth trigger disk, sensor, and axle spacer for use on the left side of the bike.



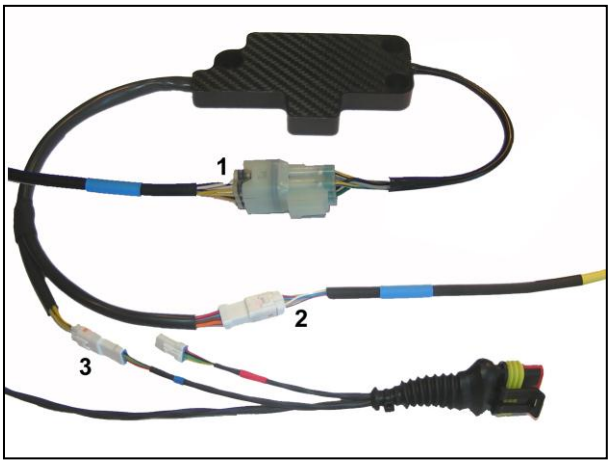


- Remove the front wheel from the bike
- Remove the 5 bolts that secure the left brake disk in place
- If your brake disks have small sunken rebates in their surface to accommodate the bolt heads, these must be filled using the 5 aluminium washers provided. Failure to do this will distort the trigger disk and more importantly may cause the brake disk to come loose in service - **See images below**
- Fit the new blue trigger disk using the original bolts and secure using the recommended thread lock agent and tightening torque
- Ensure that the trigger disk is sitting flush against the brake disk
- Re-fit the wheel, replacing the standard spacer with the new thinner spacer and sensor mounting
- The sensor gap is fixed and no adjustment is required by the user. The design gap is between 1mm and 2.5mm
- The sensor maximum range is over 4mm for smaller targets and 6mm for larger targets, therefore no other ferrous objects should be installed anywhere near this equipment
- The sensor bracket can be fitted at any angle relative to the fork - this makes no difference to the measurement. The image to the right shows the sensor angled forwards to clear the wheel guard but it can be fitted in a vertical position if modification of the guard is permissible.





WIRING – IMPORTANT – Do not connect any of the three TCS connectors directly to any standard bike loom connectors (even if they fit). These 3 connectors must only be linked to the blue-banded connectors of the wiring we supply. Damage to the equipment or bike components may occur if this rule is ignored.



Coil Wiring

Locate the wiring loom with yellow identification - CSW1285.

Connect the 6 way connector with the blue banding to connector **1** of the TC Module.

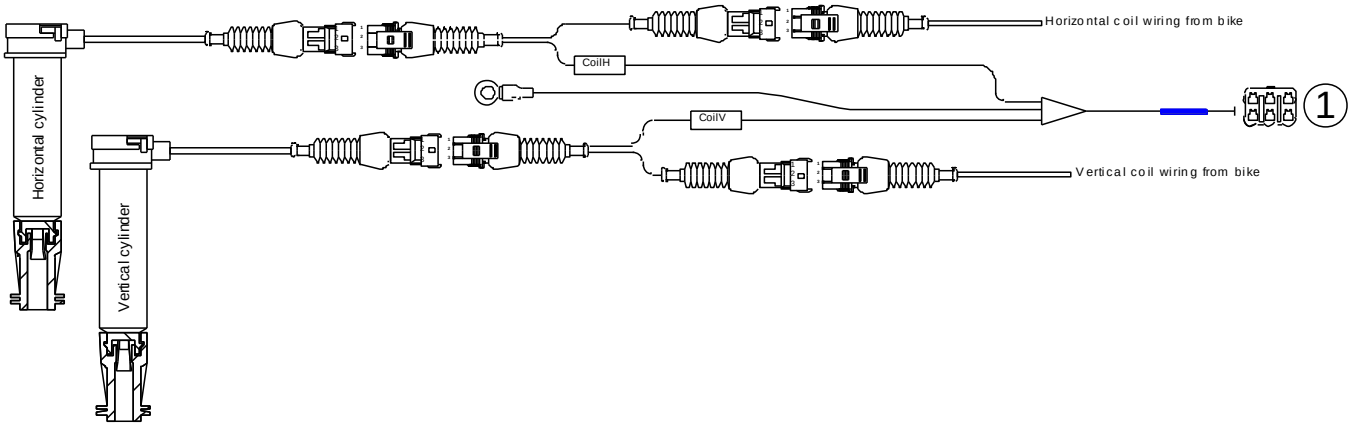
Route the wiring along the left side of the bike following the original wiring route.

Disconnect the loom wiring from the horizontal coil and use the CSW1285 wiring loom to bridge the gap as shown below.

Disconnect the loom wiring from the vertical coil and use the CSW1285 wiring loom to bridge the gap as shown below.

Should it ever be necessary to isolate all TCS functions and return the bike to normal operation, simply remove these links and re-connect the coils back to their original loom connections.

IMPORTANT – This wiring loom has a 6mm eyelet for direct connection to battery negative. This must not be fastened to any other ground location only battery negative.



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Installation – 848/1098 – AB (revision_04, 31/08/2011)

Author – Mick Boasman

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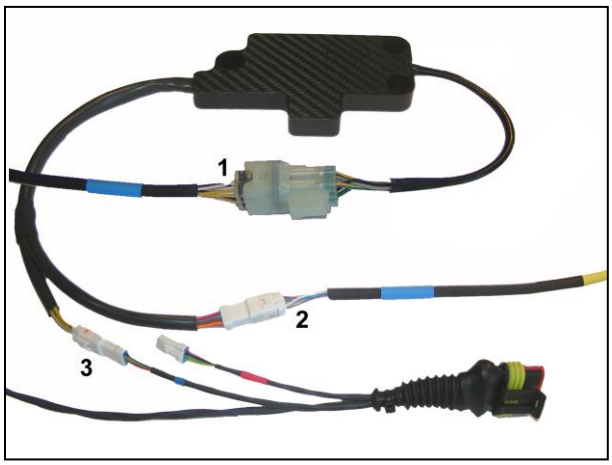
Inputs wiring

Locate the wiring loom with yellow identification - CSW1278.

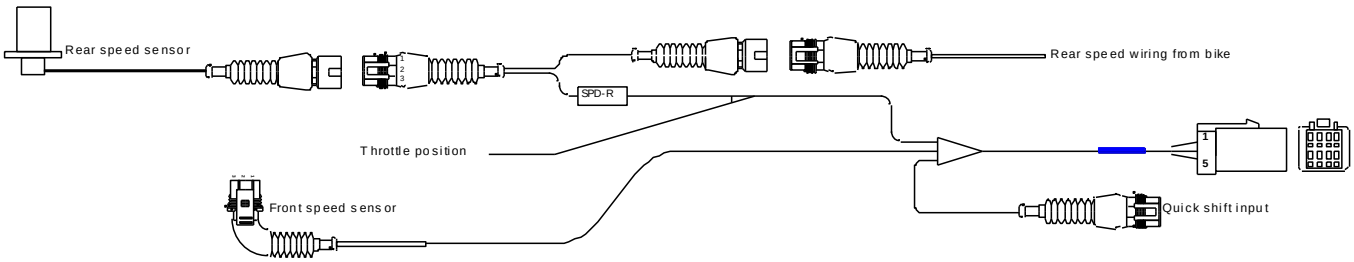


Connect the 8 way connector with the blue banding to connector **2** of the TC Module.

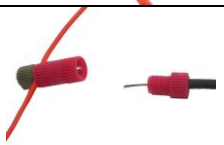
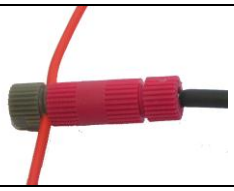
Route the front speed wiring along the left side of the bike following the original wiring route. Use the left brake line as a guide for the cable run and connect to the front speed sensor. This sensor is fundamental for system operation and care must be taken to avoid chaffing or damage during use.

Route the rear speed and throttle signal wiring on the right side of the bike.

Disconnect the loom wiring from the rear speed sensor and use the CSW1278 wiring loom to bridge the gap as shown below:



The throttle input is the single wire of this loom. This needs to be attached to the orange signal wire (pin C) of the standard bike throttle position connector using the red quick link provided in the kit, as shown in the steps below:

The quick link is made up of three parts as seen here on the right:	
Using the green section with the slot, push it over the orange throttle signal wire of the bike loom until the wire rests at the bottom of the slot:	
The large red centre section must be fitted the correct way around or the link will not work. Locate the end with the sharp pointed tip protruding from the end of the outer body and screw this end onto the green section until it rests firmly against the wire. The sharp tip will pierce the outer sleeve but not sever the inner core of the wire:	
Strip back the sleeve of the throttle input wire on the TCS loom CSW1278 so that 8mm of inner metal core is exposed. Push this into the red cap as seen here on the right with inner core showing:	
Screw this cap and wire into the main body ensuring that metal inner core and wire cores are sandwiched and held securely. Shrink sleeving can be put over this quick link if required.	

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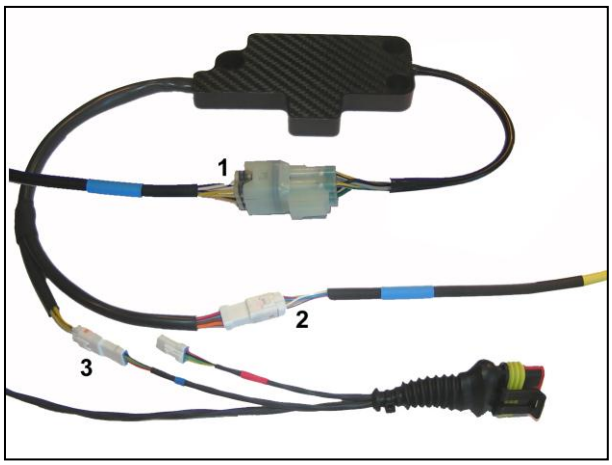
CAN and Power Wiring

Locate the wiring loom with yellow identification - CSW1286.



Locate the 4 way connector with the blue band on the new TCS wiring loom CSW1286 and connect it to connector 3 of the TC Module.

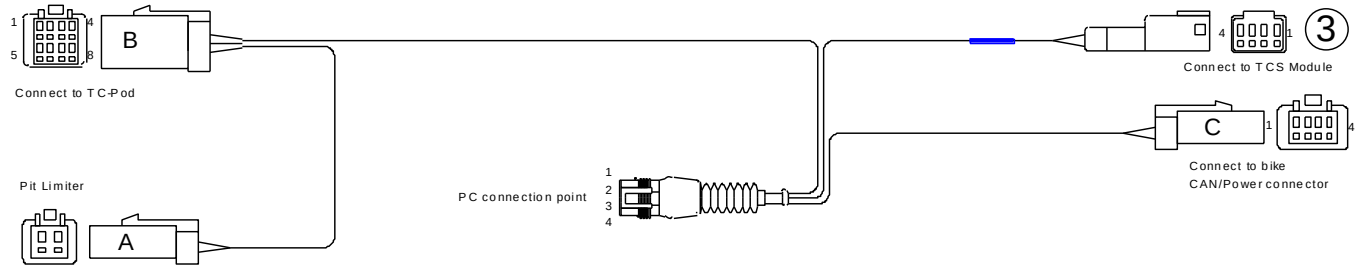
On the bike, locate the small white 4 way connector under the seat and disconnect it from the short extension cable which runs up into the seat unit for the Ducati Data Logger, this extension link will not be used with the TCS.

You can now plug the 4 way connector 'C' in the drawing below into this 4 way connector. This is the main power supply system from the bike to the TCS.

The 4 way black AMP connector is used as the connection point for the WinTC USB adaptor so can be left in any suitable position under the seat.

Route the wiring along the left side of the bike and connect the 8 way 'B' connector to the TC-Pod display.

Connect the Pit limiter to a suitable momentary 'normally open' switch if required.



PC Setup

Your TCS module should be loaded with the following maps:

110_848_1_Sxx_Rxx.S19
or
110_1098_1_Sxx_Rxx.S19

Sxx – Slip map version
Rxx – revision version

Status position offset value – 0.30 to 0.40 – Refer to **WinTC View Data**

Note : The WinTC installation guide can be found in the Nemesis-TCS manual.

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